

What is claimed is:

1. A method for driving a solid-state image pickup apparatus formed of a plurality of pixels each for photoelectric-converting an incident light into a signal charge and a transfer register for transferring the signal charge, characterized in that three or more odd number pixels are made one block, a signal charge of a predetermined pixel is thinned out to be transferred to the transfer register, resulting signal charges are added together within the transfer register so that a center of gravity of pixels may coincide with a pixel at the center of the one block, and a resulting mixed charge is transferred.

2. In a solid-state image pickup apparatus which comprises a solid-state image pickup device including pixels in a two-dimensional arrangement and a horizontal register, each pixel being provided with a received light storage unit and a vertical register or a vertical register having a light receiving function, a method for driving a solid-state image pickup apparatus being characterized in that:

three pixels in the horizontal direction are made one block; signal charges of two pixels except a pixel in the middle of each block are added together inside said solid-state image pickup device; and

a signal charge of one pixel in the middle of said block is added inside said solid-state image pickup device to a signal charge of one pixel in the middle of the adjacent block.

3. In a solid-state image pickup device in which a pixel is provided with a received light storage unit and a vertical register

or a vertical register having a light receiving function, and which includes pixels in a two-dimensional arrangement and a horizontal register, a solid-state image pickup apparatus being characterized in that

three transfer electrodes are provided per one column of the vertical register in a part of the vertical register on the horizontal register's side;

said three transfer electrodes are formed from one gate electrode layer of three different gate electrode layers; and

said three transfer electrodes are arranged in a cycle of three columns of the vertical register.

4. A solid-state image pickup device according to Claim 3, characterized in that

the transfer electrodes adjacent to said horizontal register out of said three transfer electrodes are formed from two gate electrode layers of said three different layers, and the transfer electrodes on the opposite side to said horizontal register are formed from two gate electrode layers including a gate electrode layer not used for the transfer electrodes adjacent to said horizontal register out of said three different layers.

5. In a solid-state image pickup apparatus comprising a solid-state image pickup device including pixels in a two-dimensional arrangement,

a camera being characterized by comprising:

a first mode in which three pixels in the horizontal direction are made one block, a mixed charge derived from adding within said solid-state image pickup device a signal charge of one pixel in the

middle of the block to a signal charge of one pixel in the middle of an adjacent block is removed outside said solid-state image pickup device, and a mixed charge derived from adding together within said solid-state image pickup device signal charges of two pixels except a pixel in the middle of each block is utilized as an effective signal output; and

a second mode in which signal charges of all pixels in the block are utilized as effective signal outputs corresponding to respective pixels, wherein said first and second modes are made selectable.

6. In a solid-state image pickup apparatus which comprises a solid-state image pickup device including pixels in a two-dimensional arrangement having a horizontal register, each pixel being provided with a received light storage unit and a vertical register or a vertical register having a light receiving function, a method for driving a solid-state image pickup device being characterized in that

a total of nine pixels including three pixels in the horizontal direction and three pixels in the vertical direction are made one block;

signal charges of six pixels except three pixels in the middle row of each block are transferred from said received light storage to said vertical register;

out of the signal charges of six pixels in each block, transferred to said vertical register, signal charges of four pixels except two pixels in the middle column are added together inside said solid-state image pickup device; and

signal charges of four pixels in total, namely, signal charges

of two pixels in the middle column of the block and signal charges of two pixels in the middle column of the adjacent block are added together inside said solid-state image sensing device.

7. In a solid-state image pickup apparatus in which a solid-state image pickup device is made up of pixels in a two-dimensional arrangement, a camera being characterized by comprising:

a first mode in which a total of nine pixels including three pixels in the horizontal direction and three pixels in the vertical direction are made one block, a mixed charge derived from adding together within said solid-state image pickup device signal charges of four pixels in total, namely, signal charges of two pixels in the middle column except the middle row in each block and signal charges of two pixels in the middle column of the adjacent block are removed outside said solid-state image pickup device, and a mixed charge derived from adding together within said solid-state image pickup device signal charges of four pixels at four corners for each block is utilized as an effective signal output, and

a second mode in which signal charges of all pixels in the block are utilized as effective signal outputs corresponding to respective pixels, wherein said first and second modes are made selectable.